

A. CLASSIFICATION OF SUBJECT MATTER  
 IPC 7 F01N3/00 F01N1/00 F01N1/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
 IPC 7 F01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)  
 EPO-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 430 921 B1 (STUART JOHN W ET AL) 13 August 2002 (2002-08-13) column 3, line 55 - column 6, line 13 figures 1-4	1-3,5,6
X	US 4 610 700 A (MILLER ET AL) 9 September 1986 (1986-09-09) column 1, line 5 - column 2, line 14 figures 1-3	1,5
X	DE 36 14 213 A1 (WERDNIK, IVO, DIPL.-ING) 29 October 1987 (1987-10-29) the whole document	1-3,5
A	GB 2 148 390 A (GUY * VIELLARD) 30 May 1985 (1985-05-30) the whole document	1

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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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- \*Z\* document member of the same patent family

Date of the actual completion of the international search

14 February 2005

Date of mailing of the international search report

25/02/2005

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
 NL - 2280 HV Rijswijk  
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
 Fax: (+31-70) 340-3016

Authorized officer

Louchet, N

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2 241 768 A (DEREMER FLOYD E) 13 May 1941 (1941-05-13) the whole document -----	1

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6430921	B1	13-08-2002	NONE
US 4610700	A	09-09-1986	AT 27987 T 15-07-1987 AU 567988 B2 10-12-1987 AU 3615584 A 22-05-1985 BR 8407155 A 08-10-1985 CA 1240484 A1 16-08-1988 DE 3464400 D1 30-07-1987 DK 307585 A ,B, 04-07-1985 EP 0145909 A2 26-06-1985 KR 9104917 B1 18-07-1991 NO 852652 A ,B, 02-07-1985 WO 8501986 A1 09-05-1985 JP 1034281 B 18-07-1989 JP 61500325 T 27-02-1986
DE 3614213	A1	29-10-1987	NONE
GB 2148390	A	30-05-1985	FR 2553825 A1 26-04-1985 IT 1196302 B 16-11-1988
US 2241768	A	13-05-1941	NONE